

SUPPORT FOR THE AMENDMENT

Support for the amendment to claim 1 is found in claim 13 as previously presented and on page 11, lines 19-26 and page 12, lines 7-10 of the specification. Support for claim 22 is found on page 12, lines 3-6 of the specification. No new matter would be added to this application by entry of this amendment.

Upon entry of this amendment, claims 1-4, 6-11, 14-16 and 19-22 will now be active in this application.

REQUEST FOR RECONSIDERATION

The claimed invention is directed to a foamed oil-in-water type emulsion comprising 7-35 wt.% of an oil phase, 65-93 wt. % of a water phase containing 15-60 wt. % of sugars and/or sugar esters.

Foamed oil-in-water type emulsions are commonly found as food compositions. Diglyceride containing compositions have received interest in view of disclosed beneficial health effects. Incorporation of diglyceride compositions into foamed oil-in-water type emulsions such as ice cream coatings and frozen sweets is desired. However, good foaming characteristics have not always been observed. Diglyceride compositions having good foaming characteristics and foam shape keeping ability have been reported by the combination of a liquid diglyceride and hydrogenated oil (JP 63-301765) (see pg 2, lines 1-4 of applicants' specification). However, hydrogenated oils, having been used as foaming fat or oil, carry the detriments of high saturated fatty acid and high trans acid contents (pg 2, lines 6-8 of applicants' specification). Accordingly, a diglyceride containing foamed oil-in-water type emulsion having good foaming properties and a low saturated fatty acid content is sought.

The claimed invention addresses this problem by providing a foamed oil-in-water type emulsion comprising an 7-35 wt.% of an oil phase comprising 30-90 wt.% of diglycerides which comprises at least 80 wt. % of unsaturated fatty acids and 0 to 20 wt. % of saturated fatty acids and 65 to 93 wt. % of a water phase comprising 15 to 60 wt.% of a sugar and/or sugar alcohol, the emulsion having a specific gravity of from 0.1-0.9 g/cm<sup>3</sup>.

Applicants have discovered that such a composition comprising 7-35 wt.% of an oil phase, 65-93 wt. % of a water phase containing 15-60 wt. % of sugars and/or sugar esters advantageously provides for foamed oil-in-water emulsions which suppress a too sweet taste even in the presence of high sugar concentrations. Such a foamed emulsion is nowhere disclosed or suggested in the cited prior art of record.

The rejections of claims 1-4 and 6-21 under 35 U.S.C. § 102(b) or in the alternative under 35 U.S.C. § 103(a) over Nomura et al. EP 402,090 alone and under 35 U.S.C. § 103(a) in view of Ono, U.S. 5,962,058, Lichtenstein et al. are respectfully traversed.

None of the cited prior art of record discloses or suggests a foamed oil-in-water type emulsion of 7 to 35 wt. % of oil phase and 65 to 93 wt. % water phase comprising 15-60 wt. % of sugars.

Nomura et al. describes an edible oil-in-water emulsion comprising a diglyceride mixture having an increasing melting point of 20°C or below (pg 2, lines 31-34). There is no discussion of solving the problem of foaming while improving the sweetness quality. There is no disclosure of any relationship between the amount of water and the amount of sugar in the composition, but rather only a generic disclosure of that the aqueous phase "is not different from that of the oil-in-water emulsion according to the prior art" and that the aqueous phase may further contain "a seasoning such as salt, sugar, vinegar, fruit juice, organic acid or salt thereof..." page 4, lines 23-34. There is simply no disclosure or

suggestion of 7 to 35 wt. % of oil phase and 65 to 93 wt. % water phase comprising 15-60 wt. % of sugars.

Examples 10-12 describe foamed compositions containing a sugar in the aqueous phase. However, none of these examples suggest a composition containing 65-93 wt. % of an aqueous phase containing 15-60 wt. % of sugars and/or sugar esters. Each of these examples is based on 90 part of emulsion and 10 part of sugar, the emulsion based on 40.5 parts of oil phase and 55.2 part of aqueous phase. Accordingly, the emulsion contains only 61.9 wt.% of aqueous phase (51.91 parts of aqueous phase of emulsion + 10 parts of sugar). Such a concentration of aqueous phase does not anticipate the claimed range of 65-93 wt. %. Moreover, this example does not make obvious the claimed range of 65-93 wt.% as there is no disclosure of any specific amount of aqueous phase with sugars in the aqueous phase. It would not be obvious to increase the aqueous phase concentration to within the claimed range of 65-93 wt. % since there is no guidance provided as to the concentration of aqueous phase and the relative concentration of sugars therein.

In contrast, the claimed invention is directed to a foamed oil-in-water type emulsion comprising 7-35 wt.% of an oil phase, 65-93 wt. % of a water phase containing 15-60 wt. % of sugars and/or sugar esters. Applicants note, the claims have been amended to recite 7-35 wt.% of an oil phase and 65-93 wt. % of a water phase containing 15-60 wt. % of sugars and/or sugar esters. As the reference fails to disclose or suggest a composition comprising 7-35 wt.% of an oil phase, 65-93 wt. % of a water phase containing 15-60 wt. % of sugars and/or sugar esters the claimed invention is clearly neither anticipated nor made obvious from this reference.

The secondary references do not cure the basic deficiencies of the primary reference. To the contrary the secondary references only describe high saturated fatty acid containing

compositions and therefore can not suggest a composition containing 7 to 35 wt. % of oil phase and 65 to 93 wt. % water phase comprising 15-60 wt. % of sugars.

Ono et al. fail to describe 7 to 35 wt. % of oil phase and 65 to 93 wt. % water phase comprising 15-60 wt. % of sugars. The examiner has only cited Ono et al. for describing composition having a "high degree of saturated fatty acid components (pg 5 of the outstanding official action).

Lichtenstein et al. has merely been cited to describe the preference of the cis form of fatty acids as compared with the trans form based on the disclosed effect on the serum lipoprotein cholesterol level. However, this reference fails to disclose or suggest 7 to 35 wt. % of oil phase and 65 to 93 wt. % water phase comprising 15-60 wt. % of sugars.

As the cited combination of reference do not suggest a foamed oil-in-water type emulsion comprising 7-35 wt.% of an oil phase and 65-93 wt. % of a water phase containing 15-60 wt. % of sugars and/or sugar esters the claimed invention is clearly not disclosed or suggested by the cited references. Accordingly, withdrawal of the rejections under 35 U.S.C. § 102(b) and 35 U.S.C. § 103(a) is respectfully requested.

Applicants submit that this application is now in condition for allowance and early notification of such action is earnestly solicited.

Respectfully submitted,

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